

LISTING OF CLAIMS

1-5. (Cancelled)

6. (Previously Presented) Coriolis mass flow sensor for measuring a fluid flowing through a pipe, said sensor comprising:

a first tube for conducting the fluid to be measured, said first tube having a single substantially V-shaped tube segment with an inlet-side straight tube portion and an outlet-side straight tube portion, said straight tube portions being in connection via a vertex bend portion of said first tube segment, said V-shaped tube segment being coupled to the pipe during operation;

a second tube having a single substantially V-shaped tube segment with an inlet-side straight portion and an outlet-side straight portion, said straight portions being in connection via a vertex bend portion of said second tube segment;

wherein said first and said second tubes are coupled mechanically with each other at an inlet-side location and an outlet-side location, respectively;

an excitation arrangement coupled to said first and said second tubes for vibrating said first and said second tubes; and

a sensor arrangement coupled to said first and said second tubes for detecting inlet-side and outlet-side vibrations of at least one of the tubes.

7. (Previously Presented) The Coriolis mass flow sensor as claimed in claim 6 wherein the V-shaped tube segment being coupled to the pipe via an inlet-side tube segment and an outlet-side tube segment, respectively.
8. (Currently Amended) The Coriolis mass flow sensor as claimed in claim ~~7~~6 wherein ~~a-the inlet-side~~ straight portion of said ~~inlet-side~~ tube segment and ~~a-the outlet-side~~ straight portion of said ~~outlet-side~~ tube segment are aligned to each other.
9. (Previously Presented) The Coriolis mass flow sensor as claimed in claim 6 wherein the second tube having an inlet-side tube segment being connected with the V-shaped tube segment via whose inlet-side straight tube portion and an outlet-side tube segment being connected with the V-shaped tube segment via whose outlet-side straight tube portion.
10. (Previously Presented) The Coriolis mass flow sensor as claimed in claim 9 comprising an inlet-side manifold fixed to said inlet-side tube segments of the first and second tubes and an outlet-side manifold fixed to said outlet-side tube segments of the first and second tubes.
11. (Previously Presented) The Coriolis mass flow sensor as claimed in claim 9 wherein the first and second tubes are shaped in an identical manner.

12. (Previously Presented) The Coriolis mass flow sensor as claimed in claim 6 comprising a first node plate affixed to each of the tubes at said inlet-side location and a second node plate affixed to each of the tubes at said outlet-side location.

13. (Previously Presented) The Coriolis mass flow sensor as claimed in claim 12 wherein the first node plate is affixed to said inlet-side straight tube portions of the first and the second tubes and the second node plate is affixed to said outlet-side straight tube portions of the first and the second tubes.

14. (Previously Presented) The Coriolis mass flow sensor as claimed in claim 9 wherein the first node plate is affixed to said inlet-side tube segments of the first and second tube and the second node plate is affixed to said outlet-side tube segments of the first and second tubes.

15. (Previously Presented) The Coriolis mass flow sensor as claimed in claim 12 wherein the first node plate is affixed to said inlet-side tube segments of the first and second tube and the second node plate is affixed to said outlet-side tube segments of the first and second tubes.

16. (Previously Presented) The Coriolis mass flow sensor as claimed in claim 6 comprising a support frame, said support frame being coupled to said inlet-side tube segment and said outlet-side tube segment of the first tube.

17. (Previously Presented) The Coriolis mass flow sensor as claimed in claim 10, wherein the support frame is affixed to the inlet-side and the outlet-side manifolds.

18. (Previously Presented) The Coriolis mass flow sensor as claimed in claim 15, wherein the support frame is affixed to the inlet-side and the outlet-side manifolds.

19. (Currently Amended) A support frame of a Coriolis mass flow sensor for measuring a fluid flowing through a pipe, said Coriolis mass flow sensor ~~having at least one~~ including two bent measuring tubes ~~tube within the support frame being connectable to said pipe for~~ conducting the fluid to be measured, said measuring tubes being disposed within the support frame, wherein the said support frame comprises comprising:

a substantially plane inlet-side frame portion and a substantially plane outlet-side frame portion, both frame portions being disposed opposite to each other;

a substantially plane feedthrough frame portion having a feedthrough and connecting said inlet-side frame portion and said outlet-side frame portion with each other; and

a bent vertex frame portion being connected to said inlet-side frame portion and said outlet-side frame portion and being disposed opposite to said feedthrough frame portion;

wherein the ~~at least one~~ two measuring ~~tube is~~ tubes are fixed to said inlet-side and said outlet-side frame portions.

20. (Previously Presented) The support frame as claimed in claim 19 wherein each one of the inlet-side frame portion, the outlet-side frame portion, the feedthrough frame portion, and the bent vertex frame portion having the same width.

21. (Previously Presented) The support frame as claimed in claim 19 wherein each one of the inlet-side frame portion, the outlet-side frame portion, the feedthrough frame portion, and the bent vertex frame portion having the same thickness.

22. (Previously Presented) The support frame as claimed in claim 19 wherein an inlet-side manifold is affixed to the inlet-side frame portion and an outlet-side manifold is affixed to the outlet-side frame portion, and wherein each one of a first bent measuring tube and a second bent measuring tube each being connected with said manifolds.

23. (Previously Presented) The support frame as claimed in claim 19 being supplemented by a front sheet and a rear sheet, said front sheet being affixed to the support frame at a first face of the support frame and said rear sheet being affixed to the support frame at a second face of the support frame.

24. (New) The Coriolis mass flow sensor as claimed in claim 6 wherein the V-shaped tube segment of said first tube is coupled to the pipe via an inlet-side tube segment and an outlet-side tube segment, respectively.

25. (New) The Coriolis mass flow sensor as claimed in claim 6 further comprising an inlet-side manifold connected with the first and second tubes and an outlet-side manifold connected with said first and second tubes.

26. (New) The Coriolis mass flow sensor as claimed in claim 6 wherein the V-shaped tube segment of said first tube is coupled to the pipe via an inlet-side tube segment and an outlet-side tube segment, respectively, and wherein the second tube has an inlet-side tube segment being connected with the V-shaped tube segment via whose inlet-side straight tube portion and an outlet-side tube segment are connected with the V-shaped tube segment via whose outlet-side straight tube portion.

27. (New) The Coriolis mass flow sensor as claimed in claim 6 comprising a first node plate affixed to the first and the second tubes at said inlet-side location and a second node plate affixed to the first and the second tubes at said outlet-side location.

28. (New) The Coriolis mass flow sensor as claimed in claim 25 further comprising a support frame, said support frame being coupled to said first and second tubes, wherein the support frame is affixed to the inlet-side and the outlet-side manifolds.

29. (New) The Coriolis mass flow sensor as claimed in claim 10 further comprising a support frame, said support frame being coupled to said inlet-side tube segment and said outlet-side tube segment of the first tube, wherein the support frame is affixed to the inlet-side and the outlet-side manifolds.

30. (New) The Coriolis mass flow sensor as claimed in claim 6 further comprising an inlet-side manifold connected with the first and second tubes and an outlet-side manifold

connected with said first and second tubes, wherein the first and second tubes are coupled to the pipe via said inlet-side and outlet-side manifolds during operation.

31. (New) The Coriolis mass flow sensor as claimed in claim 25 further comprising a housing, said housing being coupled to the first and second tubes via said inlet-side and outlet-side manifolds.

32. (New) The Coriolis mass flow sensor as claimed in claim 6 wherein each of the inlet-side tube segment and an outlet-side tube segment of the first tube comprises a bend portion.

33. (New) The Coriolis mass flow sensor as claimed in claim 32, wherein each of the inlet-side tube segment and an outlet-side tube segment of the first tube comprises a straight portion.

34. (New) The Coriolis mass flow sensor as claimed in claim 33 wherein the straight portion of said inlet-side tube segment and a straight portion of said outlet-side tube segment are aligned to each other.

35. (New) The Coriolis mass flow sensor as claimed in claim 6 wherein the first and second tubes are shaped in an identical manner.

36. (New) The Coriolis mass flow sensor as claimed in claim 6 wherein a curvature of each of said vertex bend portions corresponds to the arc of a circle.

37. (New) The Coriolis mass flow sensor as claimed in claim 36 wherein the first and second tubes are shaped in an identical manner.

38. (New) The Coriolis mass flow sensor as claimed in claim 6 further comprising a temperature sensor attached to said first tube.

39. (New) The Coriolis mass flow sensor as claimed in claim 6 further comprising a support, wherein the first and second flow tubes are mounted within said support.

40. (New) The Coriolis mass flow sensor as claimed in claim 39 wherein the support is coupled to said inlet-side tube segment and said outlet-side tube segment of the first tube.

41. (New) The Coriolis mass flow sensor as claimed in claim 40 further comprising an inlet-side manifold connected with the first and second tubes and an outlet-side manifold connected with said first and second tubes, wherein the first and second tubes are coupled to the pipe via said inlet-side and said outlet-side manifolds during operation.

42. (New) The Coriolis mass flow sensor as claimed in claim 40 wherein the support is affixed to the inlet-side and the outlet-side manifolds.

43. (New) The Coriolis mass flow sensor as claimed in claim 42 further comprising a temperature sensor attached to said first tube.

44. (New) The Coriolis mass flow sensor as claimed in claim 6 further comprising a support frame, wherein the first and second flow tubes are disposed within said support frame.

45. (New) The Coriolis mass flow sensor as claimed in claim 6 wherein the excitation arrangement is an electrodynamic shaker.

46. (New) The Coriolis mass flow sensor as claimed in claim 6 wherein the sensor arrangement comprises electrodynamic velocity sensors mounted on said first and second tubes.

47. (New) A Coriolis mass flow sensor for measuring a fluid flowing through a pipe, said sensor comprising:

a first tube for conducting the fluid to be measured, said first tube including a single substantially V-shaped tube segment with an inlet-side straight tube portion and an outlet-side straight tube portion, said straight tube portions being in connection via a vertex bend portion of said first tube segment, said V-shaped tube segment being coupled to the pipe during operation;

a second tube including a single substantially V-shaped tube segment with an inlet-side straight portion and an outlet-side straight portion, said straight portions being in connection via a vertex bend portion of said second tube segment, and said first and said

second tubes being coupled mechanically with each other at an inlet-side location and an outlet-side location, respectively;

an excitation system for vibrating said first and said second tubes; and

a sensor arrangement for detecting inlet-side and outlet-side vibrations of at least one of the tubes.

48. (New) The Coriolis mass flow sensor as claimed in claim 47 wherein a curvature of each of said vertex bend portions corresponds to the arc of a circle.

49. (New) The Coriolis mass flow sensor as claimed in claim 47 wherein the first tube is bent symmetrically with respect to a first axis of symmetry and the second tube is bent symmetrically with respect to a second axis of symmetry.

50. (New) The Coriolis mass flow sensor as claimed in claim 49 wherein a curvature of each of said vertex bend portions corresponds to the arc of a circle.

51. (New) The Coriolis mass flow sensor as claimed in claim 47 wherein the excitation system includes a coil fixed to said vertex bend portion of the first tube and a magnet fixed to said vertex bend portion of the second tube.

52. (New) The Coriolis mass flow sensor as claimed in claim 51 wherein the first tube is bent symmetrically with respect to a first axis of symmetry and the second tube is bent symmetrically with respect to a second axis of symmetry, and wherein the coil of the

excitation system is fixed to said vertex bend portion in an area of said first axis of symmetry and wherein the magnet is fixed to said vertex bend portion in an area of said second axis of symmetry.

53. (New) The Coriolis mass flow sensor as claimed in claim 51 wherein the excitation arrangement is an electrodynamic shaker.

54. (New) The Coriolis mass flow sensor as claimed in claim 53 wherein the sensor arrangement comprises electrodynamic velocity sensors mounted on said first and second tubes.

55. (New) The Coriolis mass flow sensor as claimed in claim 52 wherein a curvature of each of said vertex bend portions corresponds to the arc of a circle.

56. (New) The Coriolis mass flow sensor as claimed in claim 47 further comprising:
an inlet-side manifold connected with the first and second tubes and an outlet-side manifold connected with said first and second tubes, and
a housing being coupled to the first and second tubes via said inlet-side and outlet-side manifolds.

57. (New) The Coriolis mass flow sensor as claimed in claim 47 further comprising:
an inlet-side manifold connected with the first and second tubes and an outlet-side manifold connected with said first and second tubes, and

a support being coupled to the first and second tubes via said inlet-side and outlet-side manifolds.

58. (New) The Coriolis mass flow sensor as claimed in claim 47 further comprising a temperature sensor attached to said first tube.

59. (New) A Coriolis mass flow sensor for measuring a fluid flowing through a pipe, said sensor comprising:

a first tube for conducting the fluid to be measured and a second tube, said first and said second tubes coupled mechanically with each other at an inlet-side location and an outlet-side location, respectively, and, said first tube being coupled to the pipe during operation;

a support coupled with said first flow tube;

an excitation arrangement coupled to said first and said second tubes for vibrating said first and said second tubes;

a sensor arrangement coupled to said first and said second tubes for detecting inlet-side and outlet-side vibrations of at least one of the tubes, and

a printed-circuit board being attached to the support that it extends between the support and said first and second flow tubes,

wherein the printed-circuit board has conducting tracks to which leads of the excitation arrangement and sensor arrangement are connected.

60. (New) The Coriolis mass flow sensor as claimed in claim 59 further comprising a flange attached to the support, wherein the printed-circuit board extends into said flange.

61. (New) The Coriolis mass flow sensor as claimed in claim 60 wherein the flange is filled with an insulating compound.

62. (New) The Coriolis mass flow sensor as claimed in claim 60 wherein a space between the flange and said printed-circuit board is filled with an insulating compound.

63. (New) The Coriolis mass flow sensor as claimed in claim 59 wherein each of the first and second tubes comprises a tube segment comprises a vertex bend portion, and wherein the printed-circuit board extends between the support and said vertex bend portions of the first and second flow tubes.

64. (New) The Coriolis mass flow sensor as claimed in claim 62 wherein the printed-circuit board is a part of an electrical feedthrough mounted in the support opposite the vertex bend portions of the first and second flow tubes.

65. (New) The Coriolis mass flow sensor as claimed in claim 63 wherein the tube segment of said first tube is substantially V-shaped and includes an inlet-side straight tube portion and an outlet-side portion, said straight tube portions being in connection via said vertex bend portion of the first tube, and wherein the tube segment of said second tube is substantially V-shaped and includes an inlet-side straight portion and an outlet-side straight

portion, said straight portions being in connection via said vertex bend portion of the second tube.

66. (New) The Coriolis mass flow sensor as claimed in claim 53 further comprising a temperature sensor attached to said first tube, wherein a lead of said temperature sensor is connected to one of said conducting tracks printed-circuit board.